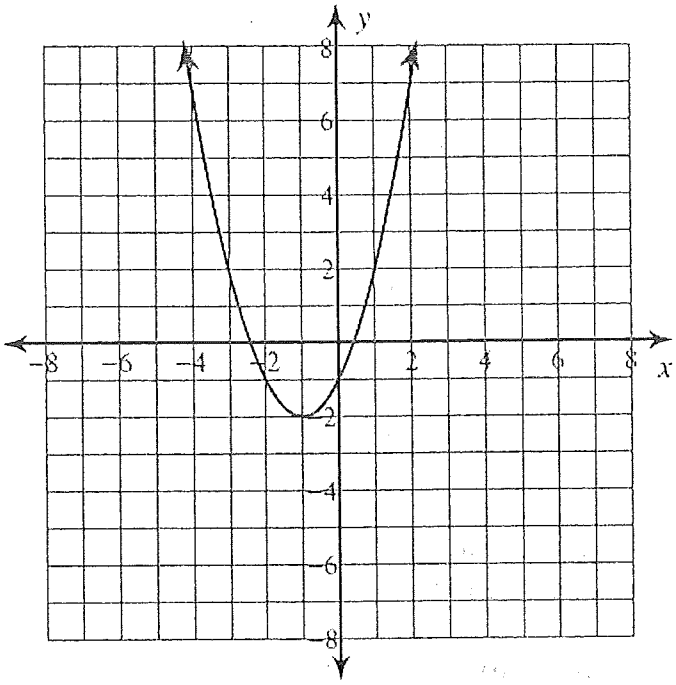
Honors Algebra 2
Graphing Quadratics – Vertex Form

Name: key
Date: _____ Period: _____

Given the graph of a quadratic, state all the important information.



1.) Opens: UP

Axis of Symmetry: $X = -1$

Vertex: $(-1, -2)$

Max/Min: MIN

Domian: $(-\infty, \infty)$

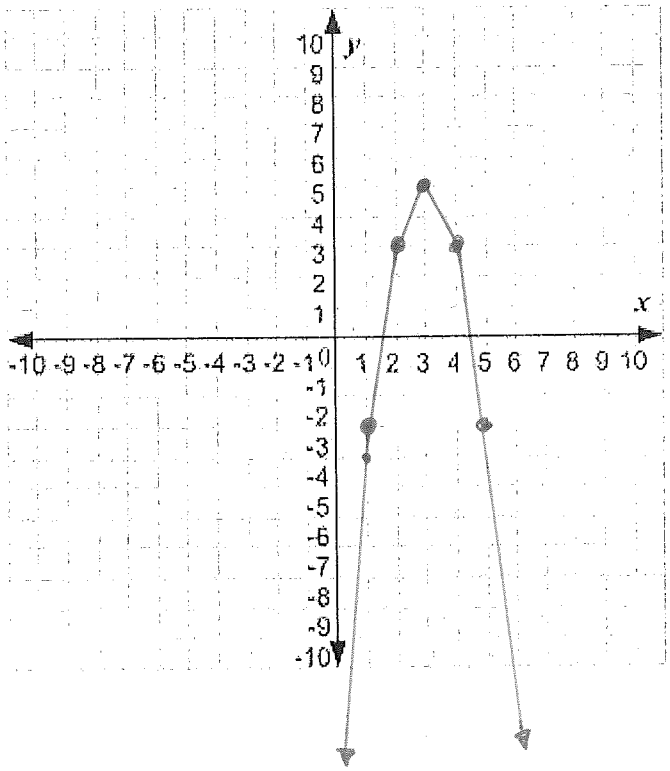
Range: $[-2, \infty)$

End Behavior:
As x approaches $+\infty$, $f(x)$ approaches $+\infty$.

As x approaches $-\infty$, $f(x)$ approaches $+\infty$.

Graph each quadratic equation. State all the important information

2.) $y = -2(x-3)^2 + 5$



Opens: DOWN

Axis of Symmetry: $X = 3$

Vertex: $(3, 5)$

Max/Min: MAX

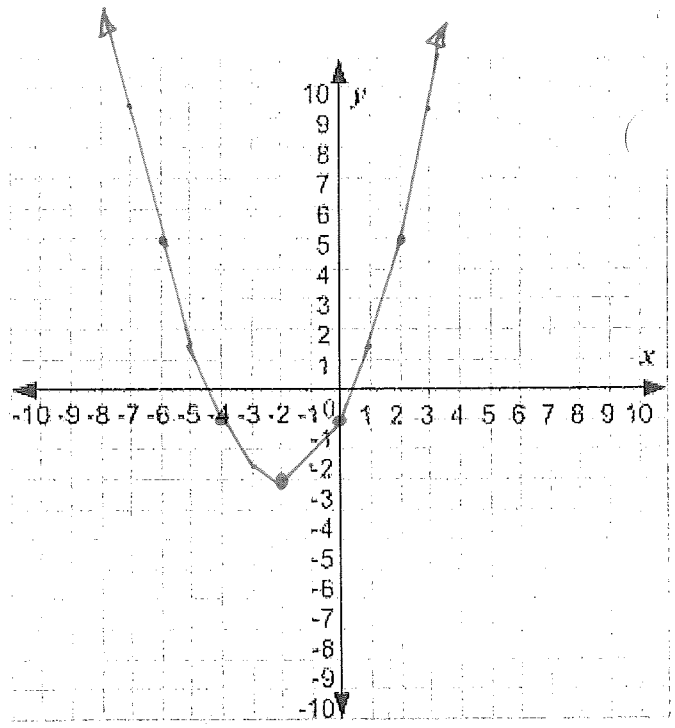
Domian: $(-\infty, \infty)$

Range: $(-\infty, 5]$

End Behavior:
As x approaches $+\infty$, $f(x)$ approaches $-\infty$.

As x approaches $-\infty$, $f(x)$ approaches $-\infty$.

3.) $y = \frac{1}{2}(x+2)^2 - 3$



Opens: UP

Axis of Symmetry: $x = -2$

Vertex: $(-2, -3)$

Max/Min: MIN

Domian: $(-\infty, \infty)$

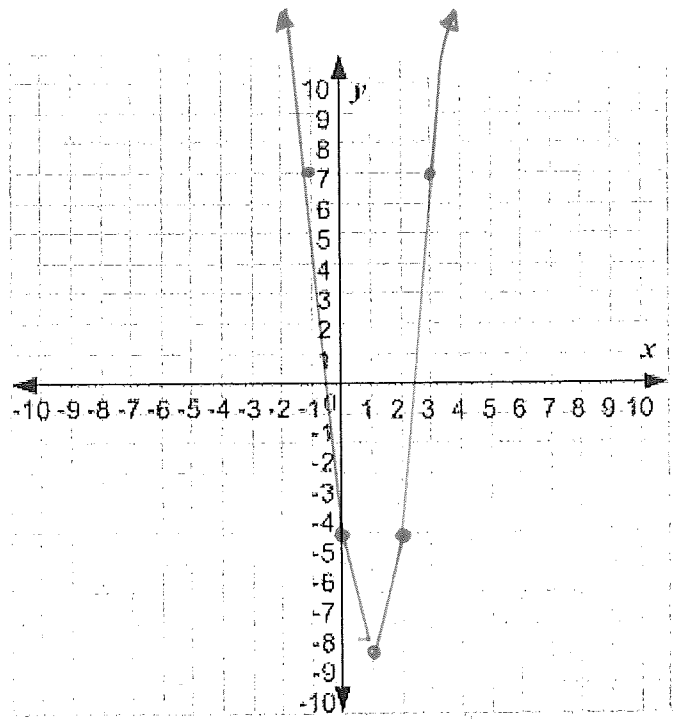
Range: $[-3, \infty)$

End Behavior:

As x approaches $+\infty$, $f(x)$ approaches $+\infty$.

As x approaches $-\infty$, $f(x)$ approaches $+\infty$.

4.) $y = 4(x-1)^2 - 9$



Opens: UP

Axis of Symmetry: $x = 1$

Vertex: $(1, -9)$

Max/Min: MIN

Domian: $(-\infty, \infty)$

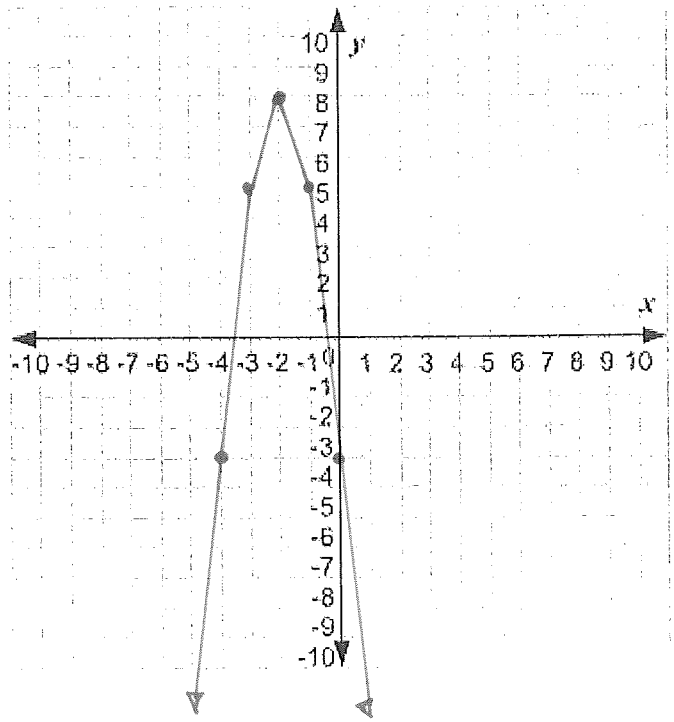
Range: $[-9, \infty)$

End Behavior:

As x approaches $+\infty$, $f(x)$ approaches $+\infty$.

As x approaches $-\infty$, $f(x)$ approaches ∞.

5.) $y = -3(x+2)^2 + 8$



Opens: DOWN

Axis of Symmetry: $X = -2$

Vertex: $(-2, 8)$

Max/Min: MAX

Domian: $(-\infty, \infty)$

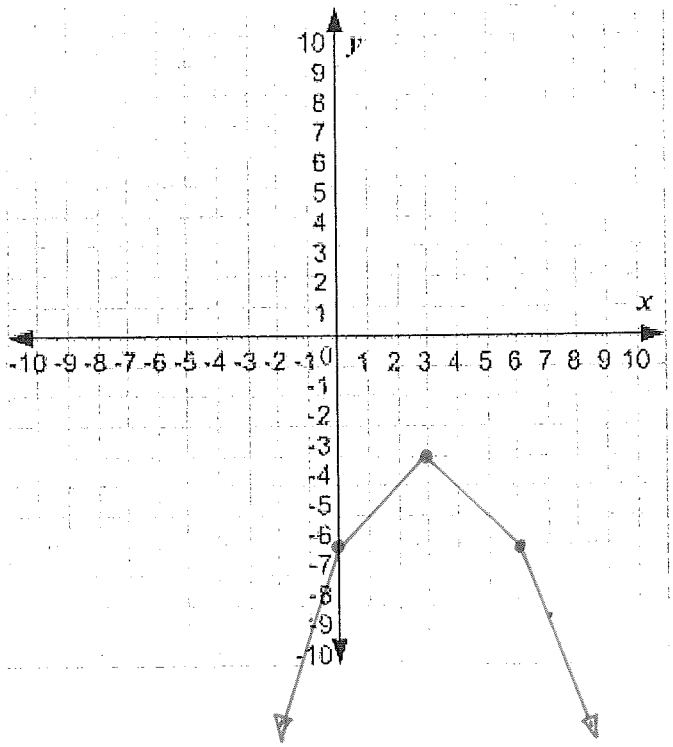
Range: $(-\infty, 8]$

End Behavior:

AS X APPROACHES $+\infty$, $f(x)$ APPROACHES $-\infty$.

AS X APPROACHES $-\infty$, $f(x)$ APPROACHES $-\infty$.

6.) $y = -\frac{1}{3}x^2 + 2x - 7$



Opens: DOWN

Axis of Symmetry: $X = 3$

Vertex: $(3, -4)$

Max/Min: MAX

Domian: $(-\infty, \infty)$

Range: $(-\infty, -4]$

End Behavior:

AS X APPROACHES ∞, $f(x)$ APPROACHES $-\infty$.

AS X APPROACHES $-\infty$, $f(x)$ APPROACHES $-\infty$.